REMARKS

Claims 1, 3, 4, 6 and 8-14 are pending in the above-identified application. Support for the changes to claims 1 and 4, as well a portion of new claim 13, is found at the bottom of page 5 of the present specification. Support for new claims 10-14 is found at pages 6-7 of the specification.

Issues under 35 USC 102(b), 102(e), 103(a)

Claims 1-3 have been rejected under 35 USC 102(b) and 102(e) as anticipated by or in the alternative, under 35 USC 103(a) as obvious over Iwami '667 (USP6,545,667).

Claims 4, 5 and 8 have been rejected under 35 USC 103(a) as being unpatentable over Ohira '410 (USP6,509,410) optionally in view of Maruoka '851 (USP 6,096,851).

Claims 1-5 and 8 have been rejected under 35 USC 103(a) as being unpatentable over Ohira '410 in view of Maruoka '851 and further in view of Iwami '667.

Claims 4-9 have been rejected under 35 USC 102(b) as anticipated by or, in the alternative, under 35 USC 103(a) as obvious over Patzschke '822 (USP 4,172,822).

Claims 1-9 have been rejected under 35 USC 103(a) as being unpatentable over Patzschke '822 in combination with Iwami '667.

The above-noted rejections are traversed for the following reasons.

Present Invention and Its Advantages

The present invention is directed to a golf ball having a paint film which contains a base resin made by curing an aqueous polyol and a polyisocyanate, wherein the aqueous polyol is an aqueous acrylic polyol, an aqueous polyester polyol, or an aqueous alkyd resin, as recited in the present claims. As noted at the bottom of page 1 of the present specification, conventional golf

ball paint layers have been formed using "solvent borne" paints, such as urethane paints and epoxy paints which means that these paints are formed from components that dissolve in organic solvents, or non-aqueous components, such as non-aqueous polyol and isocyanate. Thus, the production process requires the presence of disadvantageously large amounts of volatile organic solvents. In contrast, as noted at pages 1-2 of the specification, the golf ball paint film employed in the present invention is formed using an "aqueous" polyol selected from an aqueous acrylic polyol, an aqueous polyester polyol or an aqueous alkyd resin. It is noted an "aqueous" polyol has a chemical structure which allows the polyol to dissolve in an aqueous medium. This is well known in the polymer chemistry field and can be easily be confirmed by reference to a wide variety of sources. In contrast, a "solvent borne" or "non-aqueous" polyol has a chemical structure which allows this polyol to be dissolved in an organic medium, but not an aqueous medium.

The employment of the paint film for the golf ball of the present invention provides for advantages during the production process, since advantageously, large amounts of volatile organic solvents are not required during the production process of the golf ball of the present invention. In addition, the particular aqueous polyol components employed in the paint film of the present invention exhibit advantageously improved durability and advantageous reductions in production time as compared to a conventional golf ball paint film formed using a conventional aqueous polyol as noted at pages 1-2 of the present specification and as evidenced by the comparatively poor results shown by Example No. 4 in Table 3 at pages 30-31 of the present specification.

Distinctions between Present Invention and Iwami'667

Iwami '667 discloses that various paints may be employed in the described golf ball production, including a " ....urethane resin-based paint....prepared by reacting polyester polyol as a base material resin with isocyanate" (col. 3, lines 23-26). A review of all of the examples of Iwami '667 confirms that all of the exemplified polyols are "solvent borne", or dissolvable in organic solvents, and not "aqueous" polyols which are dissolvable in an aqueous median.

Iwami '667 fails to disclose or suggest the employment of an "aqueous" polyol in a golf ball paint film as in th present invention. Despite the use of the generic term "polyester polyol" at column 3 of Iwami '667, it is clear from a correct interpretation of the context of Iwami '667 in view of all of the examples described therein that the golf ball paint layer described therein is used by employing "solvent borne" polyols, in contrast to the "aqueous" polyols employed in the present invention. Iwami '667 further fails to recognize the advantages associated with the present invention with regard to advantageous reduction in organic solvent amounts required for golf ball paint film production. Further, Iwami '667 fails to recognize the advantages of the particular aqueous polyols employed in the present invention over conventional aqueous polyols as evidenced by the comparative test results discussed above. Therefore, significant patentable distinctions exist between the present invention and Iwami '667 such that this basis for the above-noted rejection should be withdrawn.

The Office Action includes an assertion that the recitation in the present claims that the golf ball paint film is formed form "aqueous" components is irrelevant, since the finished golf ball paint film does not include any solvent and is the same as a golf ball paint film formed using an organic solvent. This position is incorrect, since the Patent Examiner is not allowed to simply ignore features recited in the present claims. The present claims recite that the golf ball paint film contains a base resin formed by curing an aqueous polyol and a polyisocyanate. Any relevant references cited by the Patent Examiner must disclose or reasonably suggest all of these recited features, including the use of an "aqueous" polyol. It is irrelevant that the finished golf ball paint film includes no solvent, because the present claims are not directed only to a finished golf ball, but rather directed to a finished golf ball having a paint film that contains a base resin made by curing and "aqueous" polyol and a polyisocyanate.

Distinctions between Present Invention and Other Cited References

Ohira ' 410 discloses the use of a water-soluble urethane polyol and a water-dispersible urethane resin for a golf ball coating film. As noted at column 2 of Ohira '410 the urethane polyol has a hydroxyl value of 100-300 mgKOH/g.

Ohira '410 fails to disclose or suggest the use of one of the aqueous polyols listed in the present independent claims, including claim 4 as this claim is presently amended. Ohira '410 also describes the disclosed urethane polyol as having a higher hydroxyl number range of 100-300 mgKOH/g which contrasts with the lower range recited in the present claims including an upper end point of 100 mgKOH/g. Even though there is a very small overlap of these ranges, it is clear that the failure of Ohira '410 to disclose any of the presently recited aqueous polyols combined with the fact that a much higher hydroxyl number range is preferred, provides a basis for concluding that Ohira '410 fails to suggest to one skilled in the art the golf ball paint film components employed in the present invention. Consequently, significant patentable distinctions exist between the present invention and Ohira '410, such that this basis for the above-noted rejection should be withdrawn.

Maruoka '851 discloses a use of a urethane polyol for a golf ball coating material, but fails to disclose or suggest any of the specific aqueous polyols recited in the present claims. Therefore, Maruoka '851 suffers from the same deficiencies as noted above with regard to Ohira '410 and can not a form an adequate basis for the above-noted rejections.

Patzschke '822 discloses aqueous coating compositions. Patzschke '822 fails to disclose or suggest the use of the described compositions in a golf ball paint film as in the present invention. There fails to be any adequate basis for a motivation to one skilled in the art to combine Patzschke '822 with Iwami '667, since Iwami '667 exclusively employs "solvent borne" polyols in contrast to the aqueous polyols described in Patzschke '822; and Patzschke '822 fails to mention a golf ball as a substrate for the described coating compositions. Therefore, significant patentable distinctions exist between the present invention and Patzschke '822, whether taken alone, or improperly combined with Iwami '667.

It is submitted for the reasons above that the present claims define patentable subject matter such that this application should now be placed in condition for allowance.

If any questions arise in the above matters, please contact Applicant's representative, Andrew D. Meikle (Reg. No. 32,868), in the Washington Metropolitan Area at the phone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By _____
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